METHOD AND APPARATUS FOR DEMODULATING SIGNALS PROCESSED IN A TRANSMIT DIVERSITY MODE

ABSTRACT

Demodulator architectures for processing a received signal in a wireless communications system. The demodulator includes a number of correlators coupled to a combiner. Each correlator typically receives and despreads input samples (which are generated from the received signal) with a respective despreading sequence to provide despread samples. Each correlator then decovers the despread samples to provide decovered "half-symbols" and further demodulates the decovered half-symbols with pilot estimates to generate correlated symbols. The decovering is performed with a Walsh symbol having a length (T) that is half the length (2T) of a Walsh symbol used to cover the data symbols in the transmitted signal. The combiner selectively combines correlated symbols from the assigned correlators to provide demodulated symbols. One or more correlators can be assigned to process one or more instances of each transmitted signal. The pilot estimates used within each assigned correlator to demodulate the decovered half-symbols are generated based on the signal instance being processed by that correlator.